

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Hiroshi UEDA, et al.

SERIAL NO: New Application

GAU:

FILED: Herewith

EXAMINER:

FOR: SCREW WITH HEAT EXCHANGE FUNCTION, MIXER AND EXTRUDER

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97**

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

**REFERENCES**

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**RELATED CASES**

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

**CERTIFICATION**

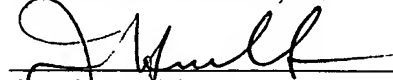
- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

**DEPOSIT ACCOUNT**

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



C. Irvin McClelland

Registration No. 21,124

James D. Hamilton  
Registration No. 28,421

Customer Number

**22850**

Tel. (703) 413-3000  
Fax. (703) 413-2220  
(OSMMN 05/03)

DOCKET NO.: 251305US3/dct

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE APPLICATION OF: Hiroshi UEDA, et al.

SERIAL NO: NEW APPLICATION

FILED: HERewith

FOR: SCREW WITH HEAT EXCHANGE FUNCTION, MIXER AND EXTRUDER

**STATEMENT OF RELEVANCY**

**Reference AO (2778797) on Form PTO-1449:**

Explained in the specification.

PURPOSE: To constitute the above screw so that winding of a material round a screw and surging phenomenon are not generated by contriving prevention of the material from melting at a transfer sphere of the screw, by a method wherein a temperature control medium feed and discharge path is provided concentrically on the central part of the screw extending from a rear end to the vicinity of the tip and a transfer sphere heat insulation layer is provided on the outer circumference of the medium feed and discharge path on the inside of the screw of a transfer sphere.

CONSTITUTION: A temperature control medium feed and discharge paths 13, 14 are provided concentrically on the central part of a screw 7 for a plastic molding machine which is inserted turnably with a cylinder barrel 1 and constituted of a transfer sphere F, compression sphere C and measuring sphere M extending from a rear end to the vicinity of the tip. A transfer sphere heat insulation layer 15 is provided on the outer circumference of the medium feed and discharge path 14 on the inside of the screw 7 of the transfer sphere F. In addition, it is preferable that a medium circulation part 20 giving a disturbance to a flow of the medium is provided on a supporting member 19 of a medium circulation pipe 11 forming the temperature control medium feed and discharge paths 13, 14. With this construction, a temperature of the measuring sphere M of the screw 7 can be controlled widely and appropriately by making use of a cooling medium or a heating medium and a temperature rise of the transfer sphere F can be prevented.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. <b>251305US3</b>		SERIAL NO. <b>New Application</b>	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT <b>Hiroshi UEDA, et al.</b>			
				FILING DATE <b>Herewith</b>		GROUP	
<b>U.S. PATENT DOCUMENTS</b>							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						
<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES                  NO		
	AO	2778797	05/08/98	Japan		X	
	AP						
	AQ						
	AR						
	AS						
	AT						
	AU						
	AV						
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
	AW						
	AX						
	AY						
	AZ					<input type="checkbox"/> Additional References sheet(s) attached	
Examiner					Date Considered		
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							